

III. REMARKS

The specification has been amended to address a minor grammatical issues. The specification has also been amended to describe that the “pole tube” has a “first open end, placed on and over a drive shaft of the electric motor and directed towards a drive gear end of the drive shaft of the electric motor,” as plainly shown by Figures 1 and 3, and as described on page 6, lines 16-20, and by original claim 1, of the application as originally filed.

Claims 1 and 6 have been amended. Claim 1 has been amended to recite that “the electric motor is arranged outside the first housing and outside the valve housing” as supported by claim 1 as originally filed. This amendment has no further limiting effect on the scope of claim 1. Claim 1 has also been amended to recite that “the electric motor is open on one side and is arranged in a pole tube” as supported on page 6, lines 14-20, of Applicants’ original specification. Claim 1 has also been amended to recite that “the pole tube has a first open end directed towards a drive gear end of a drive shaft of the electric motor” as shown in Figures 1 and 3 of the above-captioned application as originally filed.

Claim 6 has been amended to remove a character reference. The present amendment of claim 6 is not made for a reason relating to patentability and the present amendment has no further limiting effect on the scope of claim 6.

The present amendment adds no new matter.

A. The Invention

The present invention relates broadly to a throttle valve adjusting device such as may be used for a combustion engine. In accordance with an embodiment of the present invention, a throttle valve adjusting device is provided that includes the limitations recited by independent claim 1. Various other embodiments, in accordance with the present invention, are recited in the dependent claims.

An advantage of a throttle valve adjusting device, made in accordance with the present invention, is that it is of modular construction, is space and weight efficient, and is cost efficient to manufacture and to assemble with other components of an engine.

B. The Rejections

Claims 1-16 stand rejected under 35 U.S.C. § 102(b) as anticipated by Matsusaka (U.S. Patent 6,279,535 B1, hereafter the “Matsusaka Patent”).

Applicants respectfully traverse the rejection and request reconsideration of the above-captioned application for the following reasons.

C. Applicants’ Arguments

Anticipation under 35 U.S.C. § 102 requires showing the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984). In this case, the Examiner has not established a prima facie case of anticipation against Applicants’ claims because the Matsusaka Patent does not teach, or even suggest, each and every element of the claims, arranged as in the claims.

i. The Matsusaka Patent

The Matsusaka Patent discloses a “throttle control device,” as shown in Figures 1 and 2, which is a throttle controller that includes a main body (10) to which is connected a body cover (50) that accommodates therein a throttle valve (11) and a power transmitting mechanism constituted by a pinion gear (42), a secondary gear (24), and a final gear (22), (col. 4, line 65, to col. 5, line 13, and see Abstract of the Matsusaka Patent). For the Examiner’s convenience, Figure 1 of Matsusaka, is reproduced below. The Matsusaka Patent

discloses that, accommodated in the body cover (50), are a built-in throttle sensor (60) and a lever (65) connecting the throttle sensor (60) and the throttle shaft (12), (See Abstract).

The Matsusaka Patent also discloses that throttle body (10) has mounting bore (10c) formed therein into which an electric motor (30) with its housing (31), (i.e., “housing...formed of a magnetic material which acts as a yoke”), (col. 4, lines 38-42), are disposed. The Matsusaka Patent discloses that an open end of the housing (31) is attached to the throttle body (10) by a screw mechanism via first plate (32) and second plate (33) because second plate (33) is fixed to the throttle body (10), (col. 4, lines 38-48). A person of ordinary skill in the art would appreciate from Figures 1 and 2, and from the description provided by Matsusaka, that installation of the electric motor (30) with its housing (31) takes place in such a manner that the housing (31) must first be inserted with the motor (30) in order to then be affixed over both plates (32), (33). A person of ordinary skill in the art would then also realize that only then is the cover (50) attached to the housing (10) in a subsequent step, which also involves assembling electronic components as well.

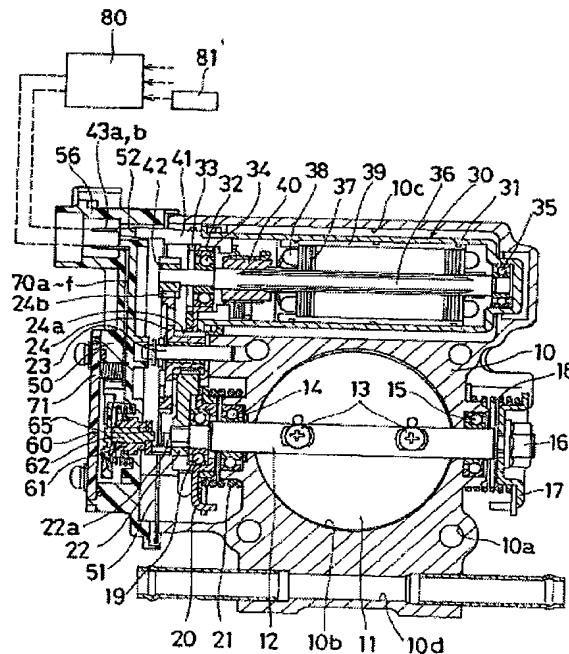


Figure 1 of the Matsusaka Patent

On the other hand, the present invention pertains to a throttle valve adjusting device in which the entire drive unit can be preinstalled. More specifically, as recited in independent claim 1, Applicants' invention includes (1) a "valve housing" in which the "valve is pivoted," (2) a "first housing" wherein "the reduction gear is arranged in the first housing" and the "electric motor is arranged outside the first housing and outside the valve housing," and (3) a "pole tube" that serves "as a housing of the electric motor." Thus, in accordance with the present invention, there is a distinction between the housing for the valve (i.e., the "valve housing") and the housing for the drive unit (i.e., the "first housing"). Furthermore, the "first housing" includes a "contact plate" and a "cover," as recited by independent claim 1, wherein "at least the reduction gear" is arranged in the "first housing" and the "cover" closes the "first housing." Independent claim 1 also recites that the "pole tube," in which the "electric motor" is arranged, serves as a "housing of the electric motor." Furthermore, the "pole tube has a second closed end arranged at least indirectly in a bearing block of the valve housing" as recited in independent claim 1.

However, as evident from Figure 1 of the Matsusaka Patent, Matsusaka discloses that the motor (30) is arranged inside the main body (10) and not outside the main body. Furthermore, the Matsusaka Patent discloses that housing (31) is surrounded by main body (10) and there is no "bearing block" of the main body (10) that interacts with the closed end of the housing (31).

In sum, the Matsusaka Patent does not teach, or even suggest, three distinct housing structures, namely, (1) a "valve housing" in which the "valve is pivoted," (2) a "first housing" wherein "the reduction gear is arranged in the first housing" and the "electric motor is arranged outside the first housing and outside the valve housing," and (3) a "pole tube" that serves "as a housing of the electric motor" as recited by independent claim 1. In particular, the Matsusaka Patent does not teach, or suggest, a separate housing structure for the drive

unit because Matsusaka employs the main body (10) to house both the power transmitting mechanism (i.e., pinion gear (42), a secondary gear (24), and a final gear (22)) and the throttle valve (11).

The Matsusaka Patent also does not teach, or even suggest, a “first housing” that comprises a “contact plate” and a “cover” and that is a housing for the “drive unit” as recited by independent claim 1. The plates (32) and (33) disclosed by the Matsusaka Patent do not form a “housing” for the motor (30). Instead, they serve as a “screw mechanism” for fixing the housing (31) to the throttle body (10), (col. 4, lines 42-48).

The Matsusaka Patent also does not teach, or even suggest, the “electric motor is arranged outside the first housing and outside the valve housing” as recited by independent claim 1 because Matsusaka discloses the motor (30) is disposed inside of the throttle body (10) as shown in Figure 1.

The Matsusaka Patent also does not teach, or even suggest, that the “pole tube” has a “first open end...plugged on an annular shoulder of the contact plate running axially so as to close the first open end” as recited by independent claim 1. Instead, the Matsusaka Patent discloses that motor (30) directly rests against plate (32) as shown in Figure 1. The Matsusaka Patent also does not teach, or suggest, that the “pole tube has a second closed end arranged at least indirectly in a bearing block of the valve housing” as also recited by independent claim 1. Instead, the Matsusaka Patent discloses that the housing (31) is disposed in a cavity (10c) formed in the throttle body (10) as shown in Figure 1 wherein the housing (31) is fixed to the throttle body (10) only via plates (32) and (33).

The Matsusaka Patent also does not teach, or suggest, that “the drive shaft of the electric motor is supported on one side in the contact plate and on an other side in a bearing position at the second closed end of the pole tube” as recited by independent claim 1. Instead, the Matsusaka Patent discloses that ball bearings (34), as shown in Figure 1, are used

to mount shaft (12) to the plate (32). In addition, plate (32) is not a “contact plate” in accordance with the present invention. Also, there is no “bearing position at the second closed end of the pole tube.”

The Matsusaka Patent also does not teach, or suggest, that the housing (31) “simultaneously serves as a housing of the electric motor” as recited by independent claim 1.

Because the Matsusaka Patent does not teach, or suggest, multiple claimed structural features of Applicants’ invention, the advantages achieved by the present invention cannot be achieved by the device disclosed by Matsusaka. In particular, as would be appreciated by a person of ordinary skill in the art, the capability of pre-assembly of the drive unit with subsequent assembly of other supporting components of the throttle valve adjusting device with the drive unit is a feature not achievable by the subject matter disclosed by Matsusaka.

For all of the above reasons, claims 1-16 of the above captioned application are not anticipated by the Matsusaka Patent.

IV. CONCLUSION

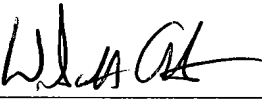
The Examiner has not established a prima facie case of anticipation against the claims of the above-captioned application because the Matsusaka Patent fails to teach multiple elements recited in the claims.

For all of the above reasons, claims 1-16 are in condition for allowance and a prompt notice of allowance is earnestly solicited.

Questions are welcomed by the below-signed attorney for Applicants.

Respectfully submitted,

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